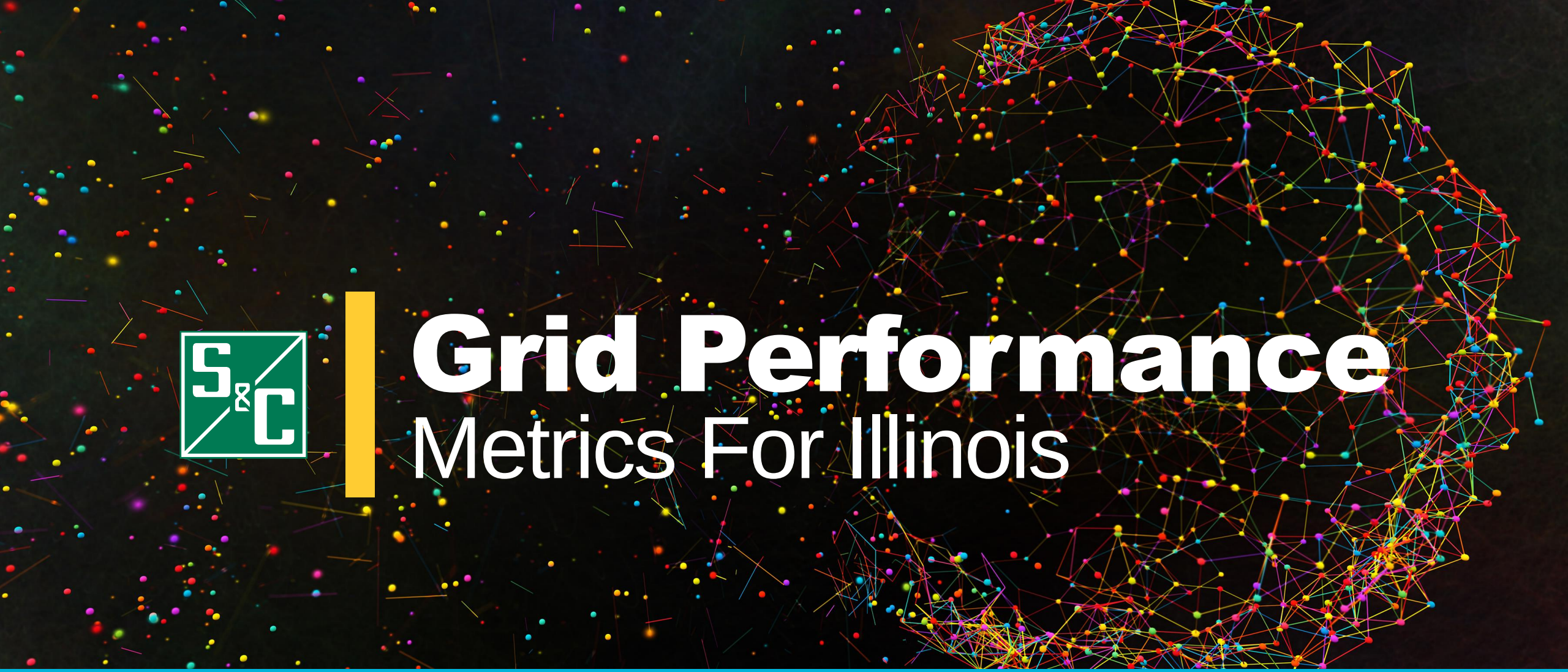
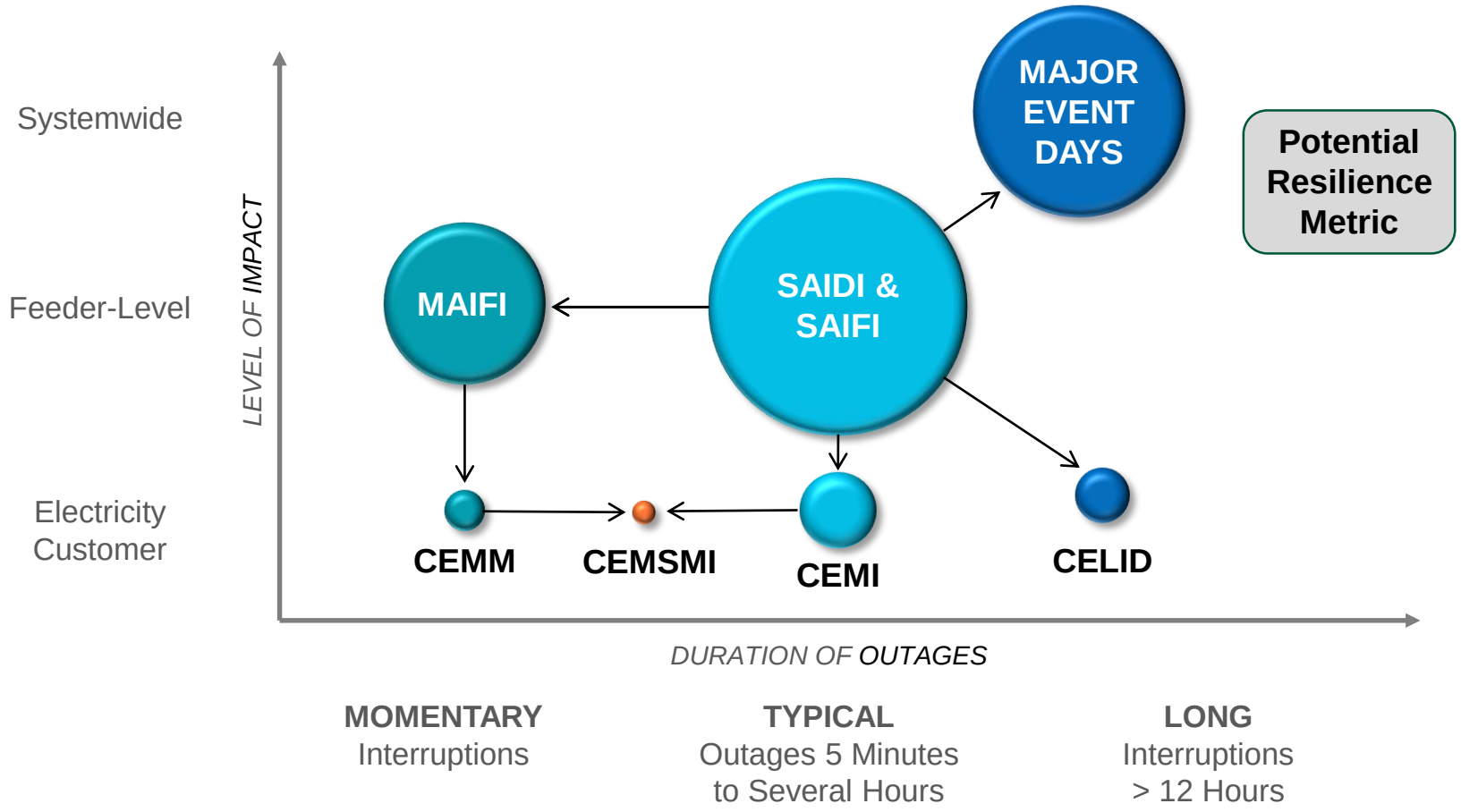


Grid Performance
Metrics For Illinois

Brian Levite
Regulatory Affairs Director
S&C Electric Company

Grid Performance Metrics



Potential Resilience Metric

Size of Circle *= Relative Level of Utility Use of this Metric*

SAIDI
System **Average** Interruption Duration Index

SAIFI
System **Average** Interruption Frequency Index

MAIFI
Momentary **Average** Interruption Frequency Index

CEMM
Customers Experiencing Multiple Momentaries

CEMI
Customers Experiencing Multiple Interruptions

CELID
Customers Experiencing Long Interruption Durations

CEMSMI
Customers Experiencing Multiple Sustained Interruptions and Momentary Interruptions Events

Developing a Resilience Metric

Prepare

- Advanced warning
- Prepositioning
- Stockpiling

Withstand

- Robustness
- Redundancy
- Storage
- Separation

Adapt

- Rerouting
- Substitution
- Rationing
- Reorganization

Recover

- Mutual Aid Agreements
- Situational Awareness
- Resource Availability

Critical Elements of Grid Performance Metric

SAIFI	+	SAIDI	+	Customer-focused metric	+	Resilience Metric
Covers how often there are grid outages		Covers how long grid outages typically are		Important to account for momentary outages Data should be as close to the customer level as is practical		Should be more about tracking over time than comparing utilities Needs to allow utilities to benefit from addressing all aspects of grid resilience

Pitfalls To Be Avoided

- Do not treat an increase in momentaries as bad if it is the result of a decrease in sustained outages
- Do not use CAIDI
- System performance dollars should be directed where the system is underperforming – not based on some other, unrelated metric.